81835
S/033/60/037/03/003/027
E032/E314

Types of Irregular Geomagnetic Disturbances and the Mechanism of Interaction of Solar Corpuscular Streams with the Outer Atmosphere

due to small (~ 100 - 300 km) regions of solar plasma which penetrate into the outer atmosphere and move along trajectories resembling Störmer trajectories towards night sectors of auroral zones (Ref 13). A distortion of magnetic lines of force by these formations is apparently the direct cause of L-disturbances. P-disturbances (Figure 7) prevail in the P-belts (polar caps). They are permanent in two respects: 1) they can be observed almost daily, including magnetically quite days (K_p ~ 0-1); 2) or during more disturbed days they follow each other almost without quiet intervals. They may possibly be due to permanent streams of solar plasma which penetrate the outer atmosphere through points with zero geomagnetic field pressure (Ref 15).
There are 7 figures, 1 table and 18 references, 11 of which are Soviet, 1 French and 6 English.

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S/033/60/037/03/003/027
E032/E314

Types of Irregular Geomagnetic Disturbances and the Mechanism of Interaction of Solar Corpuscular Streams with the Outer Atmosphere

ASSOCIATION: Astronomicheskiy Sovet Akademii nauk SSSR
(Astronomical Council of the Ac.Sc., USSR)

SUBMITTED: March 4, 1960

Card4/4

4

BOBROV, M.S.

Generalizing the theory of the shadow effect on saturn's rings for the case of particles of unequal sizes. Astron.zhur. 38 no.4:669-680 Jl-Ag '61. (MIRA 14:8)

1. Astronomicheskiy sovet AN SSSR.
(Saturn (Planet)—Ring system)

BOBROV, M.S.

(11)

BOBROV, M. S., Astronomical Council, Academy of Sciences USSR /1960/- "Optics and geometry in the matter of Saturn's rings"

PROKOF'YEV, Vladimir K., Crimean Astrophysical Laboratory imeni G. A. Steyn /1962/- "On the presence of oxygen in the atmosphere of Venus"

SALOMONOVICH, A. Ye., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR, and KUZ'MIN, Arkadiy D., Radio Astronomy Laboratory, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR - "Observations of the radioemission of Venus and Jupiter on the wave of 8 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., and KISLYAKOV, A. G. - "Radioemission of Venus on the wave of 4 mm."

SALOMONOVICH, A. Ye., KUZ'MIN, Arkadiy D., RYKHNOVA, V. P., and SHAVLOVSKIY, I. V. - "Observations of the radioemission of Venus and Jupiter on the wave of 3.3 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Radioemission of Venus on the wave of 9.6 cm."

SALOMONOVICH, A. Ye., and KUZ'MIN, A. D. - "Results of the observations of radioemission of Venus in 1961"

SHARONOV, Vsevolod V., Director, Astronomical Observatory, Leningrad State University /1961 position/- "Probable state of the surface and atmosphere of the planet Mars according to photometric and colorimetric data"

VSEKHSVYATSKIY, Sergey K., Head of the Chair of Astronomy, Kiev State University /1961 position/- "Nature of Saturn's rings and signs of the existence of a ring around Jupiter"

YEZERSKIY, V. I., and BARABASHEV, N. P., Director, Kharkov Astronomical Observatory, Kharkov State University /1960 position/- "Optical properties of the atmosphere and surface of Mars according to photometric and spectrophotometric observations carried out at the Kharkov University Observatory"

rt to be submitted for the 11th Intl. Astrophysics Symposium, Belgian . of Astrophysics, Cointe-Sclessin, Belgium, 9-11 Jul 1962.

BOBROV, M.S.

Observations of occultation of stars by Saturn's rings. Astron.zhur. 39 no.4:669-677 Jl-Ag '62. (MIRA 15:7)

1. Astronomicheskiy sovet AN SSSR.
(Saturn (Planet)—Ring system) (Occultations)

S/169/63/000/003/015/042
D263/D307

AUTHOR: Bobrov, M.S.

TITLE: Overall planetary map of geomagnetic disturbances of corpuscular origin

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1963, 41, abstract 3A245 (In collection: Solnechn. korpuskulyarn. potoki, lokalizatsiya ikh istochnikov i svyaz' so geomagnitn. vozmushcheniyami, no. 1, M., AN SSSR, 1961, 36-97 (Eng. summary))

TEXT: A detailed description is given of the morphological characteristics of geomagnetic disturbances observed during the IGY. Study of the geomagnetic disturbances was carried out by the author as the first stage of an investigation into the structure and physical properties of solar corpuscular streams. Geomagnetic activity is apparently the most direct expression of the action of solar corpuscular streams on the terrestrial atmosphere. The structure of corpuscular streams should therefore be reflected in some character-

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D263/D307

Overall planetary map ...

istics of geomagnetic disturbances. The method adopted was the comparison in global time of magnetograms recorded in all possible latitudes and longitudes: each such comparison is a global chart of geomagnetic disturbances for the given day. Altogether ~ 55 days were selected during the IGY, with different levels of magnetic activity: from quiet (max. K_p ~ 0-1) to highly disturbed (max. K_p ~ 8-9) periods. The following main results were obtained: (1) Not only the intensity but also the characteristic properties of irregular geomagnetic disturbances D_i depend fundamentally on the geomagnetic latitude Φ. During a global magnetic storm 3 independent types of D_i were observed: permanent (P) on polar caps, local (L) in zones of polar glows and adjacent regions (including partly the middle latitudes, cf below), and cophasal (S) in middle and low latitudes. (2) In accordance with the above it seems desirable to divide the Earth into 5 geomagnetic zones: 2 zones of permanent disturbances (P-zones $|\Phi| \gtrsim 70^\circ$), 2 zones of local disturbances (L-zones: $70^\circ \gtrsim |\Phi| \gtrsim 45^\circ$), and 1 zone of cophasal disturbances (S-zone $|\Phi| \lesssim 45$). More exactly, the boundary between P- and L-zones corresponds to a distance R ~ 500 km from the nearest zone

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Overall planetary map ...

of glow; the boundary between L- and S-zones is R ~ + 2500 km; the plus sign indicates direction towards lower latitudes. (3) P-disturbances are permanent in 2 regards: (a) they originate almost daily, including magnetically quiet days: (b) on more disturbed days the disturbances follow each other continuously without quiet intervals. P-disturbances are distinguished by daily maxima and a winter minimum. (4) L-disturbances are distinguished by the absence of cophasal variations at observatories distant a few hundred km from each other. Other properties of L-disturbance are well known: strong increase of intensity towards zones of polar glow, nocturnal maximum, generally negative L-peaks, in the horizontal component, existence of quiet intervals (pauses) between groups of peaks, etc. (5) S-disturbances are distinguished by accurate, or almost accurate, phase synchronism of the variations over large regions (S-regions) of the Earth (~ 10,000 km and more) [Abstracter's note: km^2 ?] for many hours. Phase synchronism is more clearly expressed in the horizontal component: as expected, the S-peaks in the H-component are positive. (6) It was found that the planetary chart of geomagnetic disturbances depends fundamentally on the disturbance intensity.

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Overall planetary map ...

During magnetically quiet days ($K_p \sim 0$-2) only P-disturbances are observed; the field is undisturbed in L- and S-zones. During days with medium magnetic activity ($K_p \sim 3$-6), P- and L-disturbances may be observed: maximum intensity is found in the zone of polar glow: in the S-zone successions of weak bay-shaped disturbances are observed (not S-disturbances), the sign of which in the H-component depends on the longitude. On days of high and very high magnetic activity ($K_p \sim 7$-9) P-, L- and S-disturbances are observed simultaneously. In low and middle latitudes storm-time variations are also observed: the latter are absent in high latitudes (including zones of glow and polar caps). The 'standard' types of geomagnetic disturbances are therefore shown on the global map: P-type at $K_p \sim 0$-2, P + L at $K_p \sim 3$-6, and P + L + S + D_{st} at $K_p \sim 7$-9. (7) Morphology of storm-time variation D_{st} was studied. It is easy to resolve the H-component of D_{st} in an S-zone by making use of the fact that the S-peaks are positive in the H-component. Having constructed the lower rounding off curve of the H-element (if the intensity increases upwards on the magnetogram) the S-peaks can be excluded, obtaining a smooth curve which is the sum of D_{st} and S_D. For greater

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Overall planetary map ...

storms $D_{st} \gg S_D$ and the rounding off curve without supplementary reductions represents D_{st} with an accuracy of the order of 50 γ. This method is preferable to the usual averaging of several magnetograms, as it leads to a better separation of D_i and allows the construction of an individual D_{st} curve for any storm, for any observatory. (8) Course of the H-component of D_{st} with time of storm, during a series of large and very large magnetic storms, is in general quantitatively as described in monographs dealing with geomagnetism. A number of characteristics is however observed, the following of which should be mentioned: (a) noticeable variability of D_{st} from storm to storm: wide variations occur of both the duration of each phase and the magnitude of the rise and decline of the field in them: (b) differences (sometimes considerable) in the intensity and duration of the initial and main phases in various latitudes: (c) a series of storms was observed with 2 or even 3 falls of the level of the field during the main phase, as well as storms with very irregular course of D_{st}. As expected, such storms are preceded by successions of chromospheric flares of magnitude equal to 2 or 3

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Overall planetary map ...

points. (9) An attempt was made at a qualitative interpretation of the observed facts. The main conclusions are: (a) mechanisms responsible for P-, L-, and S-disturbances are different: P-disturbances are apparently caused by the ingress of solar plasma into the outer atmosphere through points with zero pressure of the magnetic field (e.g. over geomagnetic poles): L-disturbances are probably connected with direct penetration of small clots and scraps of solar plasma in the regions over the zones of glow, and S-disturbances with compression of the outer atmosphere by the corpuscular stream flowing around it, fluctuation of the density of the current cause the appearance of S-peaks; (b) existence of 3 distinct types of disturbances on the global map (P, P + L, and P + L + S + D_{st}) indicate the presence of 3 distinct types of corpuscular radiation (corresponding to the quiet sun, to the M-region, and to chromospheric flares); (c) longitudinal variations in the course of D_{st} may be caused by the longitudinal asymmetry of the equatorial current ring, the existence of which is confirmed by rocket and satellite observations; (d) two or more falls of the level of the field during the main phase are apparently caused by the successive action of corpuscular

Overall planetary map ...

S/169/63/000/003/015/042
D263/D307

streams from certain flares on the outer atmosphere. (32 references)
[Abstracter's note: Complete translation]

Card 7/7

L 8615-65 EWT(l)/EWG(m)/FCC/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pg-4/Pae-2/
Peb/Pi-4 AFWL/AFETR/RAEM(a)/SSD/RSD/ESD(t) GW/WS

ACCESSION NR: AR4038682 S/0269/64/000/003/0055/0055

SOURCE: Ref. zh. Astron. Otd. vyp., Abs. 3.51.420

AUTHOR: Bobrov, M. S.; Novikova, R. T.

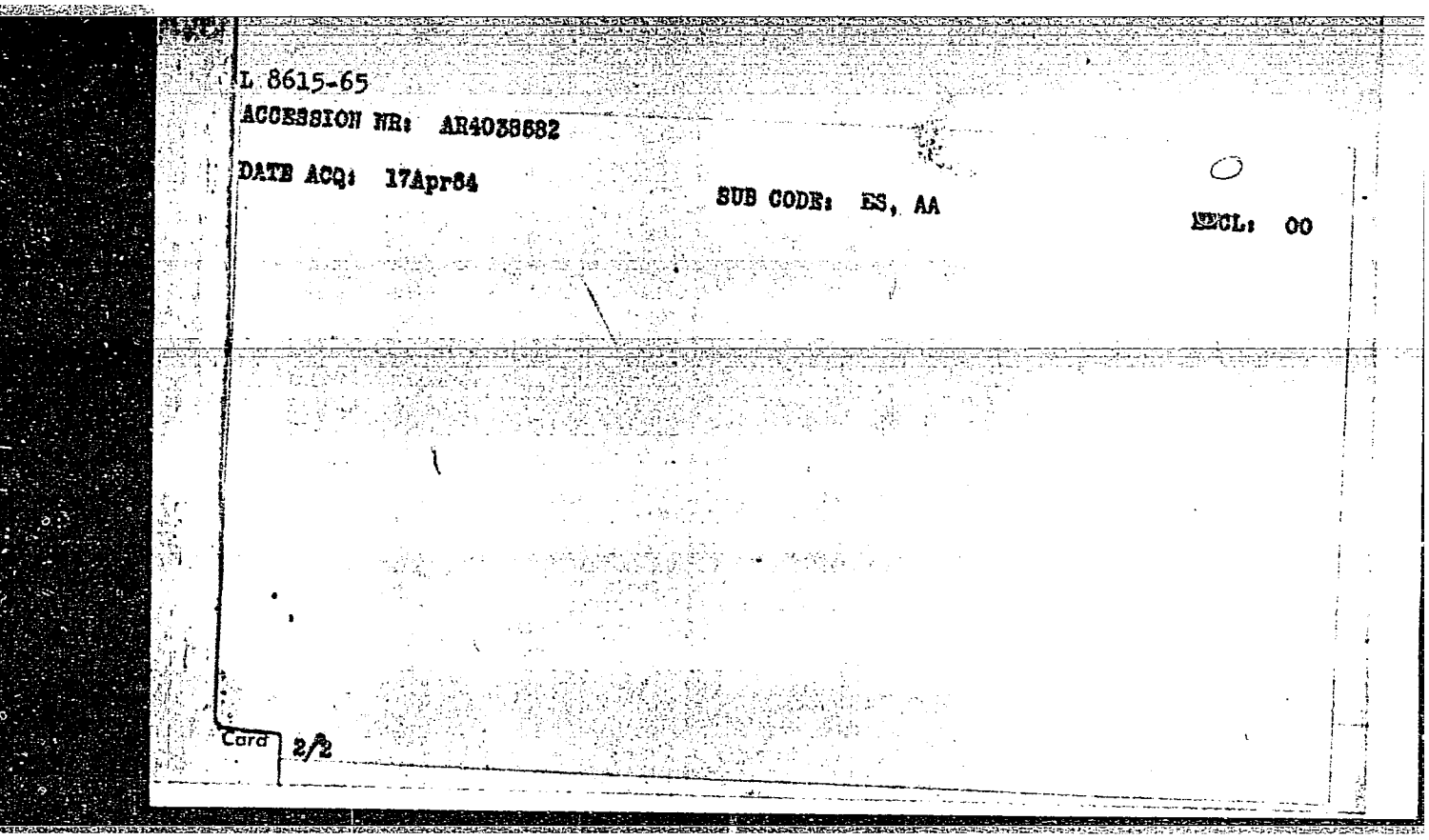
TITLE: Dependence of the intensity of the solar corpuscular wind on the phase of solar activity

CITED SOURCE: Astron. tsirkulyar, no. 242(Maya 4), 1963, 1-2

TOPIC TAGS: astrophysics, solar activity, solar corpuscular wind, geomagnetic field, geomagnetic disturbance

TRANSLATION: Using the period from July 1957 through November 1961 the authors have computed the mean seasonal values of the hourly amplitudes of the horizontal component of the geomagnetic field at Mirnyy and Kheys Island (north and south polar caps) for 141 extremely quiet days ($K_p \leq 2$). The only values used were for active periods (daytime hours local time). The constructed curves show a well-expressed annual variation. No obvious dependence of the level of geomagnetic disturbance on the level of solar activity was discovered although the latter decreased very greatly during the period considered. I. Zh.

Card 1/2



L 8615-65

ACCESSION NR: AR4038682

DATE ACQ: 17Apr64 SUB CODE: ES, AA ENCL: 00

Card 2/2

ACCESSION NR: AP4031638 S/0203/64/004/002/0333/0341

AUTHORS: Bobrov, M. S.; Koroleva, N. F.; Novikova, R. M.

TITLE: Properties of the solar wind according to permanent geomagnetic disturbances on days with very low K_p

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 2, 1964, 333-341

TOPIC TAGS: solar wind, geomagnetic disturbance, corpuscular stream, polar cap, Mariner 2, K_p

ABSTRACT: Initial data for this study were the hourly amplitudes of the H component of magnetic disturbances recorded at observatories on the northern and southern polar caps during days of very low planetary magnetic activity. The investigated interval was from July 1957 to December 1962. Days of low activity were considered to be those in which K_p and the daily total K_p did not exceed 2_0 and 10_0 respectively. The authors have shown that the disturbances were due to the solar wind. An analysis of the disturbances indicated that for the period investigated the solar wind was permanent with respect to time. It represented an

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ACCESSION NR: AP4031638

approximately radial stream of corpuscles, the intensity of which depended only faintly (or not at all) on the phase of the solar cycle. The sources of the solar wind were found to be distributed rather evenly along solar lines of longitude. No active centers of development were detected. In evaluating data from Mariner 2, the authors conclude that the corpuscular radiation that affected the instruments of this satellite were not due to the solar wind, as indicated by C. W. Snyder and M. Neugebauer (Interplanetary solar-wind experiment. Space Research IV.Symposium COSPAR. Warsaw, 1963), but was due to floccular corpuscular streams. "The authors express their thanks to E. R. Mustel' for valuable counsel and discussions of the results of the work." Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Astronomicheskiy sovet AN SSSR (Astronomical Council AN SSSR)

SUBMITTED: 30Sep63 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: AA, ES NO REF SOV: 006 OTHER: 010

Card 2/2

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000205620020-4"

BOBROV, M.Ya. (Moskva, D-56, Gruzinskiy val, d.26, kv.24)

Organization of records on oncological patients in a large industrial city; concerning V.V. Dvoirin's article. Vop. onk. 10 no.1:96-98 '64. (MIRA 17:11)

1. Rayonnyy dispanserno-onkologicheskiy kabinet Pervomayskogo rayona Moskvy (zav. - Pervomayskim rayonnym otdelom zdravookhraneniya - T.Ya. Dubinskaya).

BOBROV, M. Ya. (Moskva, D-56, Gruzinskiy val, 26, kv. 24)

Experience with iodine therapy in mastopathies. Vop. onk. 10 no.4: 67-69 '64. (MIRA 17:11)

1. Iz rayonnogo onkologo- dispansernogo kabineta Pervomayskogo rayona Moskvy (rayonnyy onkolog - Bobrov, M. Ya.).

BOBROV, N.

Underground work of motortrucks. Za rul. 17 no.6:4-5 Je '59.
(MIRA 12:10)
(Mine haulage)

BOBROV, N.

BOBROV, N.

School machine-tractor station. Za rul. no.9:4-5 '57. (MLRA 10:9)
(Machine-tractor stations)

AUTHOR: Bobrov, N. -107-58-7-30/43

TITLE: The "T-2 Leningrad" Television Set with the 35LK2B Kinescope (Televizor "T-2 Leningrad" na kineskope 35LK2B)

PERIODICAL: Radio, Nr 7, pp 45-47 (USSR)

ABSTRACT: For the conversion, alterations to the connection of the horizontal scan coils and the leads from the output winding of the horizontal sweep transformer are made. The damper tube 6Ts10P and a divider, from which are drawn the voltages for the accelerating electrode and first anode of the focussing system of the kinescope, are installed. Constructional details and hints for the conversion are given.
There are 3 diagrams and 1 circuit diagram.

1. Television receivers--Modification 2. Television tubes --Applications

Card 1/1

USSR/Electronics - Band-pass amplifiers

Card 1/1 Pub. 89 - 22/29

Authors : Bobrov, N.

Title : An amplifier with rectangular-frequency characteristic

Periodical : Radio 9, 50-51, Sep 1954

Abstract : Construction of a band-pass amplifier having a rectangular-frequency characteristic, is described. Two filters for three different bands are used in the (A-F) amplifier. The functions of each of these filters are discussed and their frequency characteristics compared. Graph; diagrams.

Institution : ...

Submitted : ...

LEVANDOVSKIY, B.; MASLOVSKIY, V.; FELINZAT, B.; LISITSYN, Yu.; KARMYEV, M.; BOBROV, N.; ZHDANOV, G.

Rebuilding television sets for new picture tubes. Radio no.7: 38-47 Jl '58. (MIRA 11:9)
(Television--Receivers and reception)
(Television--Picture tubes)

BOBROV, N.

Bobrov, N. - "The creation of synthetic rubies", (The synthesis of corundom, outline), Illustrated by I. Fridman, Znaniye--sila, 1949, No. 3, p. 15-17.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

BOBROV, N.:VITALICH, A.

Day in a motor pool. Za rul.14 no.9:6-7 D '56. (MLRA 10:3)
(Transportation, Automotive)

KOTOV, P.; BOBROV, N.

Will there be automobile races in the city of automobile makers?
Za rul. 17 no.9:3-4 S '59. (MIRA 13:1)

1.Spetsial'nyye korrespondenty zhurnala "Za rulem".
(Gorkiy--Automobile racing)

BOBROV, N.

The first hydroelectric power station on the Yenisey. Za rul. 17 no.11:6-7 N 59. (MIRA 13:4)

1. Spetsial'nyy korrespondent zhurnala "Za rulem". (Krasnoyarsk hydroelectric power station)

SETKIN, L.; ANISIMOV, V.; BOBROV, N.; RAZIN, Vl.

There are no trifles in traffic regulations. Za rul 18 no.1:10-11 Ja '60. (MIRA 13:5)

1. Reydovaya brigada zhurnala "Za rulem" (for all). 2. Inspektora Otdela regulirovaniya ulichnogo dvizheniya g.Moskvy (for Setkin, Anisimov). 3. Korrespondenty zhurnala "Za rulem" (for Bobrov, Razin).
(Traffic regulations)

BOBROV, N.

Volga-Baltic Sea Canal. Takh. mol. 25 no.7:20-21 and 36 Jl '57.
(Volga-Baltic Sea Canal) (MIRA 10:8)

BOBROV, N. (Salavat-Ishimbay-Magnitogorsk).

On the "blue fire" track. Za rul. 16 no.11:12d-14 N '58.
(MIRA 12:1)

(Ural Mountain region--Pipelines)

BOBROV, N.

On the Kolyma highway. Za rul. 17 no.3:20-21 Mr '59.
(MIRA 12:5)

(Khabarovsk Territory--Roads)
(Khabarovsk Territory--Motortrucks--Cold weather operation)

BOBROV, N.

Mountain road is a dangerous track. Za rul. 17 no.5:16-18 My '59. (MIRA 12:8)
(Uzbekistan--Mountain roads)

BOBROV, N.; KOTOV, P.

Today in workshops. Za rul. 17 no.10:9 O '59. (MIRA 13:2)

1.Spetsial'nyye korrespondenty zhurnala "Za rulem".
(Gorkiy--Automobile industry)

BOBROV, N.

"Tactics of jet planes, elements of combat"

P: Tekhnika Molodezhi
. Sept. 1946 Moscow

BORROV. N.

42587. Valeriy Chkalov (K 10-Letiyu 50 Dnya Smerti) S Portr. Ognonek 1948 No. 50 , S. 15-16.

BOBROV, N.

32524. Bobrov. N. Molodoy tokar' Denisov. (K prisuzhdeniyu Stalinsdoy premii za 1948 g. tokoryu Votkin. zavoda. Udmurt. ASSR. Ocherk). Ill. A. Pobedinskiy i Yu. Ionov. Tekhnika --- molodezhi, 1949, N$_{o}$. 10, s. 5-8.

SO: Letopis' Zhurnal'nykh S$_{t}$atey, Vol. 44

BOBROV, N.

Bobrov, N. - "The creator of winged machines", (On the 60th anniversary of the aircraft designer A. N. Tupolev), Ogonek, 1949, No. 7, p. 16, with portrait.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

BOBROV, N.

36651. Bobrov, N. V khoroshey shkole. (Kompleksnyy method kirpichnoy kladki na stroitel'stve po sisteme M. D. Kozina). Tekhnika --- - Molodezhi, 1949, No. 11, c. 6, 27

SO: Letopis' Zhurnal' nykh Statey, Vol. 50, Moskva, 1949

BOBROV, N.

Bobrov, N. "Heroes and their students," (The fliers and Heroes of the Soviet Union K. Davydov and M. Chechneva, outline), Ogonek, 1949, No. 16, p. 17.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

BOBROV, N.

Bobrov, N. "'Snegolety'" (An invention of the aviator designer, N. P. Lobanov), Tekhnika-molodezhi, 1949, No.3, p.32

SO: U-4934, 29 October 1953, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949)

BOBROV, N.

20973 Bobrov, N. Ptitselet (Kproblemo sozdaniya mashushchego letat apparata) Ill. A. Katkovskiy. Tekhnika--molodezhi, 1949, No. 6, s. 12-13.

SO: LETOPIS ZHURNAL STATEY- Vol. 28, Moskov, 1949

BORROV, N.

29213. Zhivaya petlya (K 35-letiyu so dnya gibeli pan. nesterova) Ogonek, 1949, No. 38, S. 6, 5. portr.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

BOBROV, N.

"Notable Engine Driver Blashenov," Technical Youth/USSR, 1950. (Biographical)

BOBROV, Nikolai

Na mirnykh vozdushnykh putiakh. [On the peace time air lines]. (Sovetskii Soiuz, Aug. 1951, no. 8 (18), p. 19-23, illus.).

DLC: Slavic unclass.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

VINOKUROV, A.; BOBROV, N.

By glider to the stratosphere. Tekh.mol.22 no.7:16-17 '54. (MLRA 7:6)
(Gliders (Aeronautics))

BOBROV, N.

With flapping wings. Tekh.mol. 22 no.9:12-13 S '54.(MLRA 7:9)

1. Chlen sektsii mashushohego poleta pri TSK DOSAAF.
(Gliders (Aeronautics))

BOBROV, M.

Into the stratosphere with gliders. Tr. fro[illegible] the Russian. p. 599.

IRIDLA VLASTI No. 25, Dec. 1955

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956

BOBROV, Nikolay

The Baltic-Volga Canal. Nauka i tekh mladezh no.7:16-17 '57.

BOBROV, N. G.

"The Peculiar Features of the Mass of Rocks Frozen for Many Years and their Accompanying Formations in the Southern Koryak District and on Northern Kamchatka."

dissertation defended for the degree of Cand. of Geographical Sciences, at the Permafrost Inst. im V. A. Obruchev. (Jan - Jul 1957)

Defense of Dissertations
Sect. of Geological-Geographical Sci.
Vest. Ak Nauk SSSR, 1957, 27, No. 12, pp. 113-115

BODROV, N.I.

The role of gastric leukopedesis in the diagnosis of diseases of the stomach. Terap.arkh. 28 no.8:38-43 '56. (MLRA 10:2)

1. Iz kafedry fakul'tetskoy terapii (nachal'nik - prof. V.A.Beyyer) Voyenno-meditsinskoy ordena lenina akademii imeni S.M.Kirova.
(STOMACH, dis.
diag., value of leukopedesis)

BOBROV,N.I., polkovnik meditsinskoy sluzhby, dotsent

Characteristics of heat exchange in naval personnel in the Far North. Voen.-med.zhur.no.8:42-46 Ag'58. (MIRA 16:7)
(BODY TEMPERATURE) (METABOLISM)
(MEDICINE,NAVAL)

17(

SOV/177-58-9-37/51

AUTHOR: Bodrov, N.I., Lieutenant-Colonel of the Medical Corps

TITLE: The Comparison of the Results of Gastroscopic and X-Ray Methods for Investigating the Stomach

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 9, p 84 (USSR)

ABSTRACT: The article is based on investigations of 98 patients by gastroscopy and X-rays. In 6 cases, the gastroscopic examination revealed ulcerative processes, 4 of which were not recognizable by X-rays. In 4 patients, the phenomena of primary antral gastrites accompanied by pronounced functional disturbances of the stomach were recognized. These forms of gastritis were not found by X-rays. The author indicates that the best results were obtained by parallel application of the two methods.

BOHROV, N. I.

Contrasting temperatures and their effect on the body. Gig. i san. 23 no.12:26-31 D '58. (MIRA 12:1)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(TEMPERATURE, eff.
contrasting environmental temperature, physiol. eff. on body (Rus))

BOBROV, N.I., polkovnik meditsinskoy sluzhby; MATUZOV, N.I., podpolkovnik meditsinskoy sluzhby

Changes in functional retinal lability during exposure to cold. Voen.med.zhur. no.5:20-23 My '59. (MIRA 12:8)
(COLD, eff.
on retinal lability (R_{us}))
(RETINA, physiol.
eff. of cold on lability (R_{us}))

BODROV, N.I., podpolkovnik meditsinskoy sluzhby

Role of gastroscopy in the detection of stomach diseases in military medicine. Voen.med.zhur. no.5:48-49 My '59. (MIRA 12:8)

(GASTROSCOPY,
in detection of stomach dis. in armed forces personnel (Rus))
(ARMED FORCES PERSONNEL, dis.
stomach dis., gastroscopy (Rus))

BOBROV, N.I., dotsent, polkovnik meditsinskoy sluzhby

Features of physical thermoregulation of members of the Navy in Arctic regions. Voen.-med.zhur. no.6:20-24 Je '59. (MIRA 12:9)

(BODY TEMPERATURE, physiol.
thermoregulation of navy personnel in polar region (Rus))
(COLD
same)
(ARMED FORCES PERSONNEL
same)

Bobrov, N.I., dotsent

Characteristics of heatregulation in sailors during navigation in northern latitudes. Voen.-med.zhur. no.9:50-52 S '59. (MIRA 13:1)
(BODY TEMPERATURE)
(ARMED FORCES PERSONNEL)
(COLD CLIMATE)

BOBROV, N.I., polkovnik meditsinskoy sluzhby

Functional changes in the skin analyzer in sailors in the North. Voen.-med. zhur. no. 1:71-74 Ja '60. (MIRA 14:2)
(SKIN) (COLD—PHYSIOLOGICAL EFFECT)

BOBROV, N.I.

Thermoregulation in the human body under the climatic conditions of high northern latitudes. Gig.i san. 25 no.7:26-31 Jl '60.
(MIRA 14:5)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(COLD—PHYSIOLOGICAL EFFECT) (BODY TEMPERATURE)

21892

S/177/61/000/002/005/005
D234/D305

27 0000

AUTHOR: Bobrov, N.I., Colonel, Medical Services

TITLE: Recovery from adaptation to cold in sailors serving in the north

PERIODICAL: Voyenno-meditsinskiy zhurnal, no. 2, 1961, 48 - 51

TEXT: The progress of recovery from cold adaptation was studied in twenty-two persons by measuring changes in skin temperature, sensory chronaxy and oxygen consumption in response to cooling at fixed time intervals after the completions of an acclimatization procedure. The purpose of this work was to study the effects of prolonged breaks in exposure to cold climatic conditions on the working ability and cold adaptation of sailors. During the acclimatization procedure the upper and lower limbs were cooled with water at 5° /Abstractor's note: Unit not stated, probably Centigrade/ temperature. Acclimatization was continued until marked signs of adaptation appeared: improved heat and tactile sensation, reduced lower-

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D234/D305

Recovery from adaptation ...

ing of the skin temperature, increased oxygen consumption, and so on. The cooling procedure was then interrupted for 12, 24, 36 or more days. After this interval cooling was applied to the upper or lower limbs once or twice. During this the skin temperature, chronaxy, tactile sensation and oxygen consumption were measured. The results of these measurements are given in tabulated form. The threshold of tactile sensation was measured with the von Frey apparatus and the data obtained [Abstractor's note: Data not given] show an increased threshold during the control cooling after 24 days or longer intervals. Changes in the cold sensation were also observed. Most subjects reported pleasant sensations during the cooling after 12 days interval. On the contrary, cooling after 24 days interval caused low-intensity pain sensation and light chilblains on the lower limbs. These effects increased with more prolonged intervals. It follows from the results that in interruption of up to 12 days in the cooling procedure has no essential effect on the skin senses and on the thermal regulation of the organism. Intervals of 24 days

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Recovery from adaptation ...

or longer bring about considerable changes during subsequent cooling, through recovery from adaptation. To study the processes involved in restoring the cold adaptation, a cooling procedure, similar to the primary acclimatization, was repeatedly carried out. It was found that the skin temperature decreased considerably during cooling within the first four days, but after 8 - 10 days the skin temperature of the hands and feet had risen to the temperature level, found 50 - 60 days after the primary acclimatization, and recovery of skin temperature after cooling was faster. Oxygen consumption at the beginning of the repeated cycle of cooling procedure showed an average increase of 27 cm^3 per minute, i.e. an increase of 10.5 %. On the 10th day it was similar to that observed at the end of acclimatization. Similar results were obtained for chronaxy and thermal sensation. It is concluded that an absence on leave of 24 days or longer from a Northern service post brings about a process of recovery from cold adaptation in the sailor's organism, which in turn will affect their working ability on return

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Recovery from adaptation ...

to the post. Acclimatization procedures should be used to prevent these effects. The observations also show that repeated adaptation to cold on return from a longer leave or other absence will take place considerably faster, in about 10 - 15 days. There are 3 tables.

SUBMITTED: July, 1960

Card 4/4

BODROV, N.I., podpolkovnik med.sluzhby

Evaluation of the effectiveness of the mechanical and humoral stimulants of stomach secretions in stomach diseases. Voen.-med. zhur. no. 2:77-78 F '61. (MIRA 14:2)
(STOMACH--SECRETIONS)

BODROV, N.I., podpolkovnik meditsinskoy sluzhby

Diagnostic value of the neutral red test; abstract. Voen.-med.zhur. no.3:81 Mr '61. (MIRA 14:7)
(STOMACH--DISEASES) (NEUTRAL RED)

BOBROV, N.I.

Changes in heat production following repeated cooling of the body. Gig. i san. 26 no.5:23-28 My '61. (MIRA 15:4)

1. Iz kafedry voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(ANIMAL HEAT) (COLD--PHYSIOLOGICAL EFFECT)

39219

S/240/62/000/004/001/003
I015/I215

AUTHOR: Bobrov, N. I., Doctor of Medical Sciences

TITLE: The effect of acclimatization to cold on the function of cutaneous analysers

PERIODICAL: Gigiyena i sanitariya, no. 4, 1962, 18–24

TEXT: Following a daily application of cold to limited regions of the body of 26 persons the sensory chronaxie was examined and the threshold of the cutaneous-tactile sensitivity, as well as the sensitivity to pain, were established. It was assumed that the changes in the cutaneous analysers following a prolonged application of cold were neuro-humoral by nature, and that they were responsible for a greater working-capacity. There are 3 figures and 2 tables.

ASSOCIATION: Kafedra voyenno-morskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni S. M. Kirova (Chair of Military-Marine Hygiene, Lenin orden Academy of Military Medicine imeni S. M. Kirov)

SUBMITTED: June 12, 1961

Card 1/1

BOBROV, N.I., podpolkovnik meditsinskoy sluzhby; MATUZOV, N.I., podpolkovnik meditsinskoy sluzhby

Drinking conditions on ships in tropical ocean zones; review of literature. Voen.-med. zhur. no.8:68-71 '62. (MIRA 16:9)

(MEDICINE, NAVAL) (THRIST)

BOBROV, N.I., prof.

Changes in the nasal mucosa during adaption to cold in the north. Gig. i san. 28 no.1:97-99 Ja '63. (MIRA 16:7)

1. Iz kafedry voyenno-moskoy gigiyeny Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.
(NOSE) (COLD--PHYSIOLOGICAL EFFECT)
(ACCLIMATIZATION)

BOBROV, N.I., polkovnik meditsinskoy sluzhby, prof.

Role of local hypothermia in the development of protective reactions in sailors in the North. Voen.-med. zhur. no.3: 68-72 '65. (MIRA 18:11)

L 04606-67

ACC NR: AP6027254 (N) SOURCE CODE: UR/0177/66/000/007/0064/0066

AUTHOR: Bobrov, N. I.; Chervyakovskiy, N. Ya.

ORG: none

13
B

TITLE: Body function shifts of sailors sailing in the Arctic

SOURCE: Voyenno-meditsinskiy zhurnal, no. 7, 1966, 64-66

TOPIC TAGS: arctic medicine, human physiology, physiologic parameter, blood, nutrition

ABSTRACT: The effect of Arctic conditions on body functions of sailors aboard a small vessel were investigated during a 90 day expedition. Psychomotor reflexes, arterial pressure, lung capacity, capillary resistance, and blood proteins served as indices which were determined before the expedition, at bases, at sea and at end of voyage. Findings show that after 90 days at sea the psychomotor reflex to a light flash is retarded in most cases indicating a certain degree of fatigue. Initial maximal arterial pressure values of some crew members were increased due to nervous tension, but became normalized at sea and remained normal; thus, the mean maximal arterial pressure values were lower at the end of 90 days than the initial values. The minimal

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UDC: 613.166.9:629.127(211.1)

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ACC NR: AP6027254

arterial pressure values did not change significantly at any period. Electrocardiographic data also showed no significant shifts. But, blood protein values were reduced to their lowest normal range values by the 90th day. Urea levels were determined daily to study protein metabolism in greater detail. Urea levels were highest during stormy weather (up to 40 g) and lowest during stopovers at bases (9.71 g). Thus, increased urea levels are the result of more intense protein metabolism leading to reduced blood protein levels. Capillary resistance tests displayed no evidence of a vitamin C deficiency. The only recommendation made for future expeditions of this type is to provide a higher protein diet. Orig. art. has: 3 tables.

SUB CODE: 06/ SUBM DATE: none

Card 2/2

BOBROV, N.M.

Hemo-tuberculin complex method accessory diagnostic method in tuberculosis. Probl. tuberk., Moskva no. 5:49-50 Sept-Oct 1952. (CLML 23:5)

1. Professor, deceased. 2. Of the Institute of Tuberculosis (Director -- Z. A. Lebedeva; Scientific Supervisor -- Prof. A. Ye. Rabukhin), Academy of Medical Sciences USSR.

BOBROV, N.N
BOBROV, NIKOLAEVICH

aerodynamics

BOBROV, NIKOLAĬ NIKOLAEVICH, 1881-

TSAGI; s predisloviem N. M. Kharlamova, pod redaktsiei B. IA. Kuznetsova. Moskva, Molodaia gvardiia, 1934. vii, 332 p., illus., ports.

Title tr.: Central Aerodynamic and Hydrodynamic Institute, named after N. E. Zhukovskii.

TL568.M6B6

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

Aerodynamics

BOBROV, NIKOLAI NIKOLAEVICH

BOBROV, NIKOLAI NIKOLAEVICH.

Chkalov. Moskva, "Khudozhestvennaia literatura," 1940. 318 p., plates, ports, fold. map, facsims.

TL540.C56B6

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

BOB ROV, NIKOLAY, NIKLAEVICH aerodynamics

BOBROV, NIKOLAĬ NIKOLAEVICH.

Chkalov. Moskva, Sovetskii pisatel', 1949. 434 p., plates, ports,, fold. map.

TL540.C56B6 1949

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

BOBROV, N. N., Engineer-Lieutenant Colonel of Guards

"Single Grade of Oil for Summer and Winter Operations of the V-2 Engine." Sub 23 Jun 47, Moscow Order of the Labor Red Banner Petroleum Inst imeni Academician I. M. Gubkin

Cand. Technical Sci

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

BOBROV, N.N., kand.tekhn.nauk; GORELIK, Ye.A., starshiy prepodavatel'; BOBROV, N.N., kand.tekhn.nauk, otv.red.

["Uses of fuel and lubricants"; guide for laboratory practice] Primenenie goriuchego i smazochnykh materialov; uchebnoe posobie po laboratornomu praktikumu. Moskva, Mosk.in-t neftekhim. i gazovoi promyshl. im. I.M.Gubkina, 1958. 41 p. (MIRA 14:4)

(Lubrication and lubricants--Testing)
(Fuel--Testing)

BOBROV, Nikolay Nikolayevich; VOROPAY, Petr Ivanovich; NOVIKOVA, M.M., ved. red.; VORONOVA, V.V., tekhn. red.

[Using fuels and lubricants]Primenenie topliva i smazochnykh materialov. Pod obshchei red. N.N.Bobrova. Moskva, Gostoptekhizdat, 1962. 342 p. (MIRA 16:2)
(Petroleum as fuel) (Lubrication and lubricants)

BOBROV, N.N.

PHASE I BOOK EXPLOITATION SOV/6357

Bobrov, Nikolay Nikolayevich, and Petr Ivanovich Voropay

Primeneniye topliva i smazochnykh materialov (The Use of Fuels and Lubricants) Moscow, Gostoptekhizdat, 1962. 346 p. Errata slip inserted. 8180 copies printed.

Managing Ed.: M. M. Novikova; Tech. Ed.: V. V. Voronova; Ed. (title page): N. N. Bobrov.

PURPOSE: This textbook is intended primarily for students of nontechnical fields in petroleum institutes. It may also be used in other educational institutions.

COVERAGE: The physical and chemical properties of fuels and lubricants and their effect on the operation of engines, transmissions, etc. are described. Basic problems in the theory and design of engines and machinery are briefly reviewed with respect to fuels and lubricants and

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their quality requirements. The characteristics of the liquid propellants T-1, TC-1, T-2, and T-5 are given (Ch. 4). The following oxidizers are described in Chapter 5: 1) LOX; 2) nitric acid and its compounds; and 3) hydrogen peroxide. The following have shown good possibilities as oxidizers: 1) fluorine and its compounds; 2) ozone; and 3) oxygen-chlorine compounds. The following are analyzed: 1) hydrocarbon fuels; 2) methyl and ethyl alcohols; 3) aniline, xylodin, and triethylamine; and 4) hydrazine, methyl hydrazine, symmetrical dimethylhydrazine, and NDMH (hydrazine was used as fuel in German Me-163 aircraft). Some data are given on beryllium (solid), aluminum (solid), lithium (solid), boron (solid), pentaborane (liquid), decarborane (solid), trimethylaluminum (liquid), and dimethylberyllium.

TABLE OF CONTENTS [Abridged]:

Introduction

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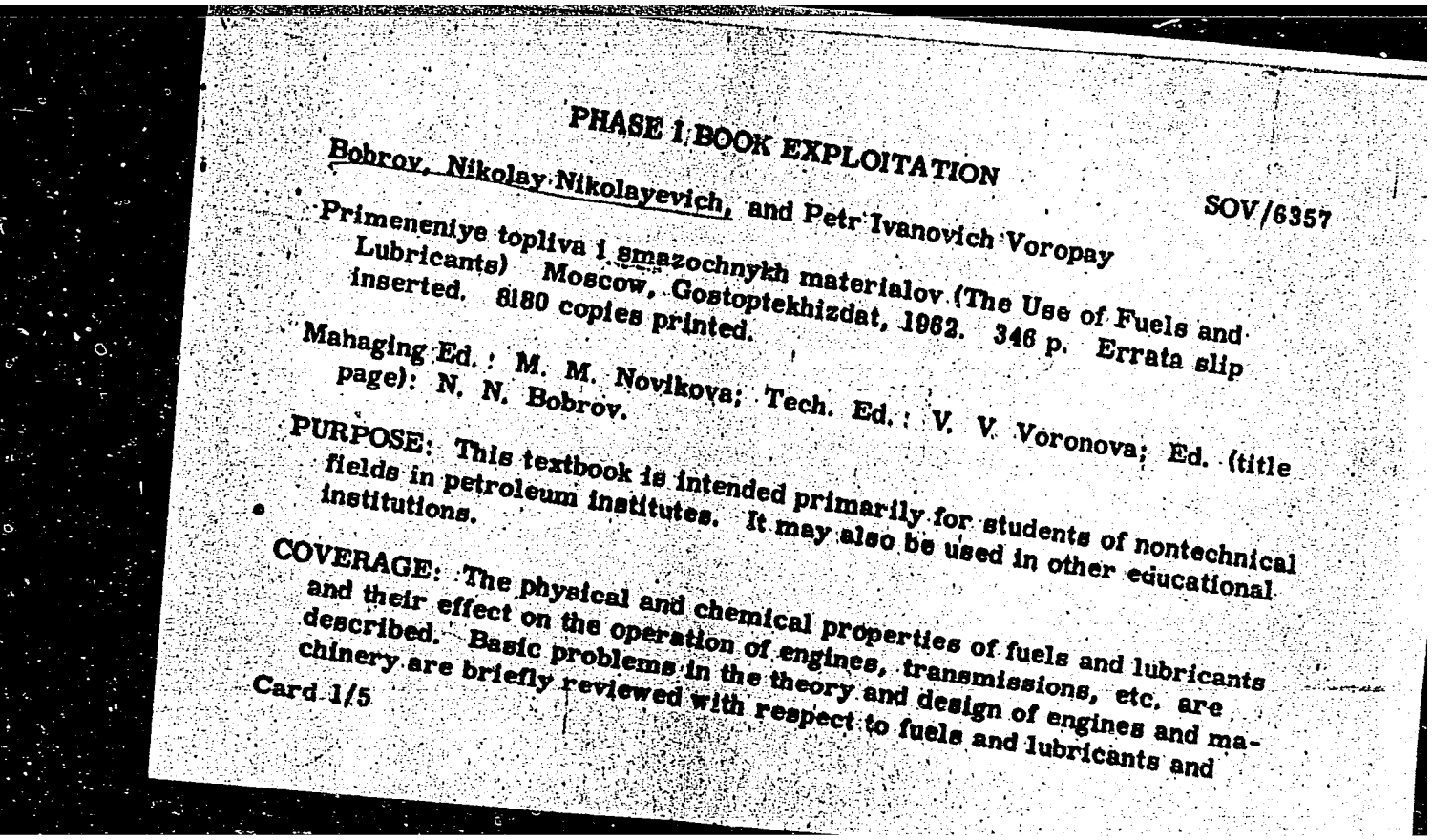

PHASE I/BOOK EXPLOITATION SOV/6357

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Card 1/5

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TABLE OF CONTENTS [Abridged]:

Introduction

BOBROV, N. N.

Bobrov, N. N. - "Technique of fluorescent microscopy," Byulleten' In-ta tuberkuleza Akad. med. nauk SSSR, 1948, No. 4, p. 40-42

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

BOBROV, K.P.

34181. Otednestvennyy flyuorestsentnyy osvetitel' dlya mikroskopa doktora krylova. Byulleten' in-ta tuberkuleza Akad. med. nauk SSSR, 1949, № 2, s. 42-45

SO: Knizhnaya Letopis' № 6, 1955

BOBROV, N. N.

Bobrov, N. N. - "Morphological changes in the tuberculosis bacilla in the mucus and body fluids in the streptomycin treatment of tuberculosis patienta", Trudy Akad. med. nauk SSSR, Vol. II, 1949, p. 123-32.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

"Significance of the Blood Picture in the Clinical Treatment of Pulmonary Tuberculosis," Sov. Med., No. 8, 1949, Prof, Tuberculosis Inst, Acad Med Sci USSR.

BOBROV, N.N.

Fluorescent microscopy in laboratory and clinical materials in new staining methods. Arkh. pat., Moskva 12 no.6:44-47 Nov-Dec 50. (CLML 20:4)

1. Of the Institute of Tuberculosis of the Academy of Medical Sciences USSR, Moscow.

BOBROV, N. N.

Floatation method of examination of gastric lavages for Mycobacterium tuberculosis. Prob. tuberk., Moskva no.3:65 May-June 1951. (CIML 20:11)

1. Moscow.

1. BOBROV, N. N., Prof.

2. USSR (600)

4. Tuberculosis - Diagnosis

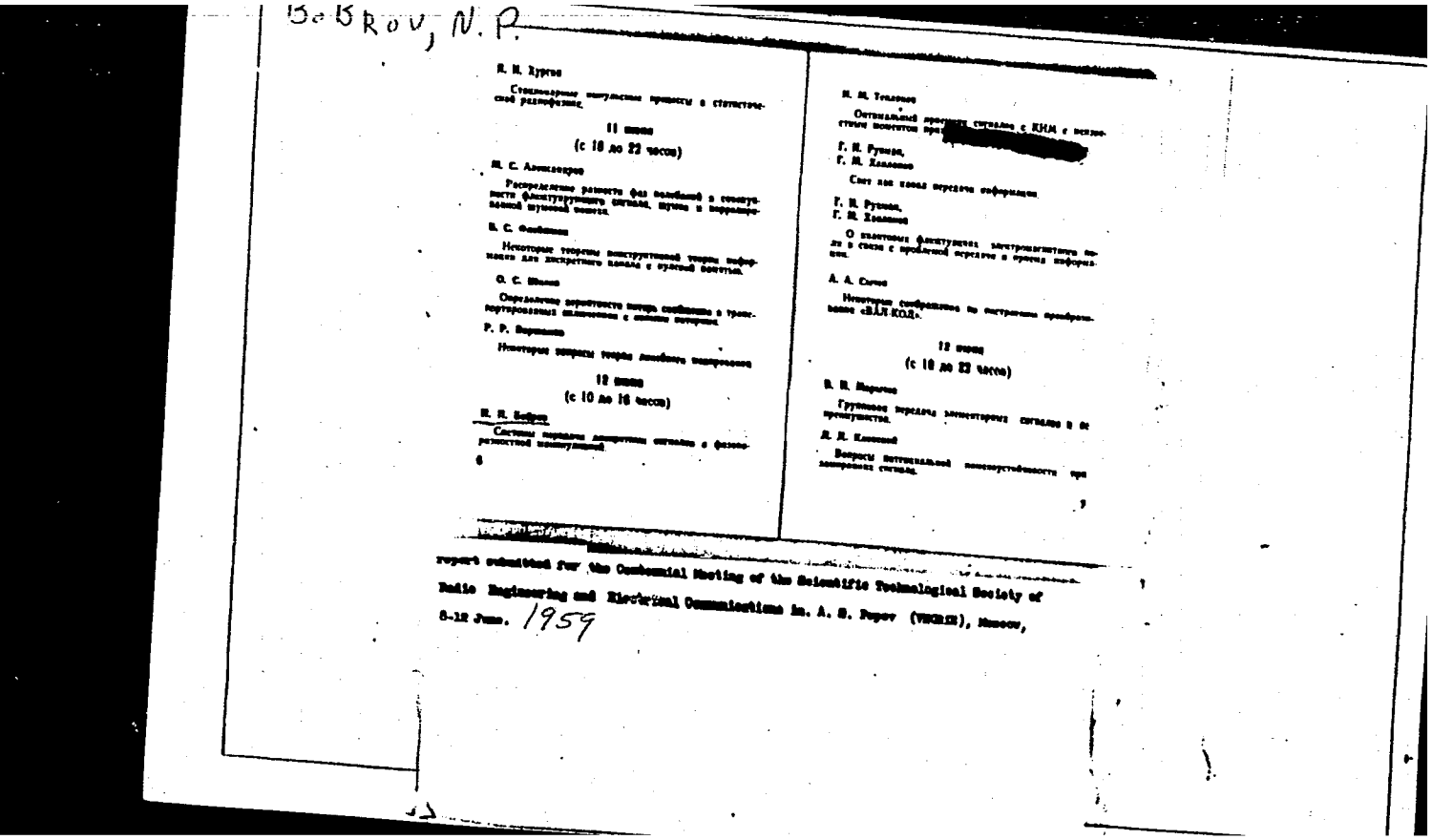
7. Complex hemo-tuberculin test in the diagnosis of the open state of a tubercular process. Probl. tub. no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

BOBROV, N. P.

N. P. BOBROV, "Classification and comparison of systems to transmit discrete synchronous signals." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. 58

Systems to transmit discrete, synchronous signals are analyzed, they are classified on the basis of five distinguishing criteria (multiplicity of transmission method of manipulation, transmission of side spectra, type of detector and method of selection) and they are compared according to four indices (transmission rate, coefficient of channel allocation band, interference-immunity and quality). Certain peculiarities of static and dynamic manipulation methods are analyzed.



BELOV, N. P.

Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIES), Moscow, 8-12 June. 1959

AUTHOR: Bobrov, N.P.

TITLE: The Noise-Proofness of a Simplex System of Transmitting Binary Signals with Differential Phase Modulation (O pomekhozashchishchennosti odnokratnoy sistemy peredachi dvoichnykh signalov s frm)

SOV/106-59-3-4/12

PERIODICAL: Elektrosvyaz', 1959, Nr 3, pp 27-31 (USSR)

ABSTRACT: A method of transmitting binary information which has aroused great interest was proposed by Petrovich (Ref 1). The system works as follows: when sending the symbol 1 the phase of the signal is shifted by 180°, when sending the symbol zero the phase remains unchanged; in other words, in this system the information is sent by changes in phase rather than by the simple relationship between the phase and the symbol to be sent. Fig 1 shows a block diagram of a receiver. A signal is passed through a filter to the phase detector which is switched synchronously by a coherent version of the input signal, the signal is then re-generated and sent to a sign-change detector. Two methods of achieving this last operation are shown in Fig 2, in the first case the re-generated

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square wave is differentiated and applied to the primary of a push-pull transformer. A full-wave rectification takes place at the secondary and the original changes in sign are reproduced. In the second system the signal and a delayed version are supplied to a summator of modulus 2. This method of deriving sign changes overcomes an objection inherent in the simple phase modulation system; in the latter an ambiguity arises whereby the original message may be recovered or one corresponding to a complete shift of 180° in phase. The present method however, does suffer from the fact that errors in the original signal may in fact be increased at low signal-tc-noise ratios. This transferred coefficient is unity but at high signal-to-noise ratios it is 2. The corresponding expression for the simple phase modulation system, as studied by Montgomery (Ref 3), is given by (11). In Fig 3, the probability of error is plotted against signal-to-noise ratio for the present system (curve 2), the Montgomery

system (curve 1), an ideal system realising potential noise stability (curve 3) and for an actual system using frequency modulation described by Lezin in Ref 4 (curve 4). The superiority of differential phase modulation over frequency modulation is particularly noticeable in high-speed systems. The author thanks M.V.Yakovleva for valuable criticism. There are 3 figures and 4 references, of which 3 are Soviet and 1 English.

SUBMITTED: 30th August 1958

84368
S/106/60/000/006/001/013
A169/A026

9.3270

AUTHOR: Bobrov, N.P.

TITLE: The Transmission of Sampled Signals With the Aid of Phase-Difference Keying

PERIODICAL: Elektrosvyaz', 1960, No. 6, pp. 3 - 9

TEXT: The author discusses various methods of phase-difference keying and ways of realizing these methods for transmitting synchronous sampled signals (diskretnyy signal), in which the duration of the signal elements (otrezok signala) are multiples of the time $\tau_э$, called duration of elementary sample. The term "phase-difference keying" (fazo-raznostnaya manipulyatsiya, abbreviated FRM) has been suggested by the author for designating one of three dynamic keying methods, whose common feature is that each value of the sampled signals to be transmitted corresponds to a certain difference of the carriers between any of two, or a greater number of samples of the keyed signal. The other two methods are called amplitude-difference keying (amplitudno-raznostnaya manipulyatsiya, ARM) and frequency-difference keying (chastotno-raznostnaya manipulyatsiya, CHRM). The first phase-difference keying system, known in literature, was described in

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The Transmission of Sampled Signal With the Aid of Phase-Difference Keying

1936 by V.I. Siforov (Ref. 1). The signal transmission was to be achieved by the following methods: a) A radiation of carrier oscillations is produced in the system with one of n possible initial phases, differing from each other by $\varphi_n = 2\pi/n$. b) In transmitting the sign of the binary signal $x_i = 1$, the carrier phase in the keyed signal is changed by the angle $+\varphi_n$ or $-\varphi_n$, in other words, the vector of the carrier must change by the angle $\pm\varphi_n$ from the position which it had during the preceding $(i - 1)$-th sample. c) In transmitting the sign $x_i = 0$, the carrier phase in the keyed signal remains unchanged. The author suggests an expansion of the class of simplex binary phase-difference keying systems by some modifications of the above conditions b) and c): b') In transmitting $x_i = 1$, the vector of the carrier must turn by the angle $m_1\varphi_n$. c') In transmitting $x_i = 0$, the carrier vector must turn by the angle $m_0\varphi_n$, where m_1 and m_0 are whole numbers. The conditions a), b') and c') make it possible to construct a great number of binary systems differing from each other by the values of n, m_1 and m_0. However, only systems in which n is equal to 2, 3 or 4, may find a practical application, since at $n>4$, the carrier phase distinction causes difficulties at the receiver end. The possible simplex binary phase-difference keying systems

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The Transmission of Sampled Signals With the Aid of Phase-Difference Keying

with $n \leq 4$ were compiled in Table 1. The system No. 21 in Table 1 is known under the designation "relative phase telegraphy" (otnositel'naya fazovaya telegrafiya, OFT), described by N.T. Petrovich (Ref. 4). The general expression for signals of binary phase-difference keying systems can be written in the following form:

$$\Psi_{2i} = A_0 \sin \left[\omega_0 t + \varphi_0 + \varphi_n \left(m_1 \sum_{k=1}^{i} x_k + m_0 \sum_{k=1}^{i} \bar{x}_k\right)\right], \quad (1)$$

where A_0, ω_0 and φ_0 are amplitude, frequency and initial phase of the signal, while $\bar{x}$ is the inversion of the binary number x. A generalized block diagram of transmitters for simplex binary phase-difference keying systems is shown (Fig. 2). It consists of a code converter, a phase keyer and a carrier oscillation generator. The binary signal x is converted in the code converter into the sampled signal ζ with the basis n. Further, the author gives two block diagrams of transmitters of binary phase-difference keying systems (Fig. 3). In addition, simplex phase-difference keying systems for transmitting ternary signals, duplex phase-difference keying systems for transmitting binary signals, phase-difference keying systems with $n>4$, are discussed. For the transmission of ternary signals only three systems are possible in view of the fact that $n>4$ causes difficulties at the receiver end. The same limitations apply to the duplex systems

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84358
S/106/60/000/006/001/013
A169/A026

The Transmission of Sampled Signals With the Aid of Phase-Difference Keying

for binary signal transmission, where only two systems are practically feasible: the system No. 41, a dual simplex phase-difference keying system, similar to the duplex FM system of A.A. Pistol'kors (Ref. 2), but with independent binary phase-difference keying in each channel; the system No. 42, a duplex system with quaternary phase-difference keying. The law of the latter has been used in the "Kineplex" system. In conclusion, the author discusses briefly the efficiency of phase-difference keying systems. Methods of receiving phase-difference keyed signals will be discussed in another paper. There are 3 figures, 4 tables and 4 references: 3 Soviet and 1 English.

SUBMITTED: January 16, 1960

Card 4/4

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28789
S/106/61/000/010/001/006
A055/A127

AUTHOR: Bobrov, N. P.

TITLE: Reception of signals with phase-difference keying

PERIODICAL: Elektrosvyaz', no. 10, 1961, 3 - 10

TEXT: Several methods for transmitting discrete signals by phase-difference keying were described by the author in an earlier article [Ref. 1: N. P. Bobrov, Peredacha diskretnykh signalov s pomoshch'yu fazo-raznostnoy manipulyatsii (Transmission of discrete signals by phase-difference keying), Elektrosvyaz', 1960, no. 6]. In the present article the author describes the possible methods of reception of phase-difference keyed signals and the basic connection diagrams of the corresponding receivers. A general description of the following reception methods is given: 1) Auto-correlation reception. - The author enumerates those of the binary and ternary systems described in his earlier article with which this reception method can be used. For system no. 21, the required phase-shift angle γ is equal to π. For system no. 22, $\gamma = \pm \pi/6$. For systems nos. 24 and 26, $\gamma = \pi/4$. For systems nos. 23, 25, 31, 32 and 33, $\gamma = \pi/2$ (the numbers are those used in the earlier article). A special auto-correlation receiver that can receive signals

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